

NOTES ON CARABIDÆ FROM LAKE CALLABONNA, CENTRAL AUSTRALIA.

By THOMAS G. SLOANE.

Communicated by Rev. T. BLACKBURN.

[Read July 2, 1895.]

The interesting collection of *Carabidæ* made by Mr. A. Zietz, of the Adelaide Museum, at Lake Callabonna in September, 1893, has been placed in my hands for examination; and I offer the following notes as the result of my investigation of the thirty-seven species contained therein. The types of the new species belong to the Adelaide Museum.

NEOCARENUM BLACKBURNI, *n. sp.*

Elongate, robust, parallel, convex; prothorax a little wider than long, widely rounded behind; elytra convex, smooth, impunctate, base deeply emarginate; anterior tibiæ bidentate; intermediate tibiæ strongly bidentate externally. Black.

Head large, transverse (4·5 x 6·5 mm.), lightly convex, smooth, transversely impressed across occiput; frontal sulci deeply impressed, strongly curved, diverging greatly backwards, anterior part of their course very lightly marked, and not reaching margin of head; space between frontal sulci wide, not elevated; pre-ocular sulcus widening into a broad depression anteriorly; pre-ocular process forming a strong triangular projection; eyes deeply enclosed in orbits; lower edge of orbit thick, and forming a ridge below posterior part of eye; suborbital channel (to receive antennæ) oblique, very deep, distant from eye; two supra-orbital punctures on each side placed close together at base of space between frontal sulci and eyes; genæ (between suborbital channel and buccal fissure) divided from submentum, striate. Labrum with anterior margin rounded and advanced in middle. Labial palpi with last joint widely securiform. Antennæ thick, moniliform, incrassate; joints 5-11 compressed, grooved on edges, second joint very little longer than third. Prothorax a little broader than long (7·7 x 8 mm.), widest a little behind anterior angles, lightly convex, not declivous behind; sides almost parallel between marginal punctures, a little narrowed to base behind posterior marginal puncture; anterior margin truncate; base wide, evenly and lightly rounded; anterior angles widely rounded, not marked; posterior angles very obtuse, lightly

marked; border thick, extending round anterior angles and across base, very little reflexed on sides, more strongly so between the posterior marginal punctures (*i.e.*, on base and posterior part of sides), thickened and most prominent at basal angles; marginal channel wide on sides, narrow on base; median line linear, very lightly impressed; two marginal punctures on each side, the anterior about 1.5 mm. from anterior angle, the posterior about same distance from posterior angle. Elytra of same breadth as prothorax (14 x 8 mm.), widest behind middle, a little narrowed to base, widely rounded at apex, very convex, impunctate, sub-opaque (covered with minute scratches); base roundly and deeply emarginate between shoulders, abruptly declivous to peduncle; shoulders prominent; lateral border finely reflexed; a row of umbilicate punctures along lateral margin, two punctures on basal declivity of each elytron about middle of width; inflexed margin narrow behind first ventral segment. Prosternum sloping to peduncle (not vertical on base), widely and lightly excavate between coxæ. Ventral segments smooth, impunctate; suture between second and third well marked in all its course. Legs not long, rather heavy; femora compressed; anterior short, wide, thick, very lightly sinuate on lower side near apex; anterior tibiæ wide towards apex, bidentate; external ridge forming a slight but marked projection above upper external tooth; inferior ridge weakly developed, irregular, not serrate; apical plate forming a thick prominent projection below tarsus; intermediate tibiæ thick towards apex, strongly bidentate externally, the anterior tooth at apex, the upper (strong, erect, triangular) about apical third; posterior coxæ and trochanters impunctate.

Length, 28; breadth, 8 mm.

This species differs conspicuously from *N. elongatum*, Macl., in having the elytra without the submarginal row of large punctures, and in having the intermediate tibiæ bidentate externally. In these respects it resembles *N. retusum*, Bates, to which it is evidently closely allied; but, judging from the description of *N. retusum*, differs in the anterior tibiæ, which are bidentate externally, not tridentate (in *N. Blackburni* the external ridge forms a rather prominent, though not dentate, projection above the upper external tooth, but the tibiæ cannot be said to be tridentate), and have the inferior ridge and apical plate not differing much from those of *N. elongatum*, not with "two broad conspicuous teeth," as in *N. retusum*. *N. Blackburni*, too, seems a more convex species, and probably has the humeral angles of the elytra less strongly dentate. From *N. parviceps*, Sl., a species that has the elytra impunctate, it differs greatly in facies, being more convex, the head larger, with the eyes more deeply embedded in the orbits, the prothorax less transverse, the intermediate

tibiæ bidentate externally, &c. A specimen of this species was also brought from Ayer's Rock by the Horn Exploring Expedition of 1894.

POGONUS HYPHARPAGIOIDES, *n. sp.*

Male. Oval, robust; head large, convex; prothorax a little broader than long, not sinuate on sides before base, apex and base of equal width (1.5 mm.); elytra striate, the striæ simple, obsolete near base, a short striole at base of first interstice, third interstice tripunctate.

Testaceous. Head smooth, convex, broad across base, widely and feebly impressed on each side between antennæ; clypeal suture distinct; clypeus large, truncate; eyes convex, not prominent, lightly enclosed behind. Mandibles stout, hooked at apex; scrobe with a setigerous puncture towards apex. Labrum transverse, subtruncate (very lightly emarginate), sexsetose on anterior margin. Mentum with a short wide emarginate median tooth. Palpi: maxillary with penultimate joint a little longer than apical, incrassate; apical joint dilatate about basal third, narrowed to apex (apex obtuse); labial with penultimate joint long, narrow; apical joint shorter than penultimate, subcylindrical, dilatate in middle, narrowed to apex, subtruncate. Antennæ rather short, subfiliform; first four joints cylindrical; first much thicker than others, about as long as third; second shorter; seven apical joints of about equal length, compressed; three basal joints glabrous (a few long setæ at apex of third). Prothorax a little broader than long (2 x 2.1 mm.), widest a little before middle, smooth, convex; anterior margin truncate; base roundly truncate; sides lightly rounded; anterior angles obtuse, very close to head; basal angles obtuse; border narrow and reflexed on sides, thick and not reflexed on base, a short projecting prominence on each side just before basal angles bearing the posterior marginal puncture; marginal channel very narrow, passing evenly round each basal angle; median line linear, lightly impressed; lateral basal impressions near each basal angle, wide, round, shallow, a wide, transverse impression connecting them. Elytra convex, short, oval (4.5 x 2.8 mm.), widely and evenly rounded at apex; base truncate, much wider than base of prothorax; three inner striæ strongly marked on disc, fourth and fifth very lightly marked, sixth and seventh obsolete; the striæ obsolete, or very faint, towards base, and faint on apical declivity; eighth stria deeply impressed, diverging from margin some distance behind shoulders; three inner interstices a little convex in middle of length, ninth wide, convex, punctate on course of eighth stria; border narrow; basal border with posterior margin sloping forward on each side to humeral angles. Legs light;

tarsi setose on upper surface, two basal joints dilatate and squamulose beneath.

Length, 7.25; breadth, 2.8 mm.

This species has a general resemblance to the species of the genus *Hypharpha*; it is very distinct from the two previously described Australian species. I am inclined to believe the specimen before me to be immature, and think it possible the proper color of the insect may prove to be much darker. The penultimate joint of the labial palps seems to have about four setæ on the inner side; of these the two nearest the apex are close together, and the joint is a little incrassate towards the apex after them.

POGONUS ZIETZI, *n. sp.*

Narrow, elongate, depressed; prothorax cordate; elytra flat on disc, lightly striate, a striole at base of first interstice, third interstice tripunctate.

Head and prothorax piceous brown; elytra pale-testaceous, infuscate near scutellum; legs testaceous; antennæ ferruginous. Head transverse, a little narrowed behind eyes, smooth; clypeal suture obsolete; clypeus feebly impressed on each side near base of mandibles; eyes prominent. Mandibles short, stout, hooked at tip; scrobe with a setigerous puncture towards apex. Ligula transverse, truncate, two long setæ placed together in middle; paraglossæ narrow, extending a little beyond ligula. Mentum deeply emarginate, with a short, simple, widely-triangular median projection. Maxillæ sharply hooked at apex, fringed with hairs on inner side; outer lobe biarticulate. Palpi: maxillary with penultimate joint cylindric, incrassate; apical joint thick, obtusely truncate, about same length as penultimate; labial with penultimate joint narrow, elongate, three fine setæ on inner side; apical joint shorter, subcylindrical, lightly arcuate on outer side, dilatate in middle, apex thick, obtusely truncate. Labrum short, transverse, sub-truncate (hardly emarginate). Antennæ slender, elongate, filiform, very lightly compressed; first joint thick, about as long as third; second shorter; two basal joints glabrous; third pubescent on apical half. Prothorax smooth, cordate (1.25 x 1.5 mm.), widest considerably before middle, depressed on disc, truncate in front and behind; sides shortly rounded to anterior angles, evenly and decidedly narrowed to base; anterior angles rounded off; basal angles not marked; lateral border finely reflexed; lateral channel narrow, terminating a little before the actual base at posterior marginal seta; median line fine, lightly impressed; lateral basal impressions short, wide, extending to margin at basal angles; space between each basal impression and margin not carinate. Elytra narrow, parallel (3.6 x 2 mm.), flat on disc, evenly rounded at apex; base trun-

cate; humeral angles rounded; striæ finely impressed, two inner distinct and punctulate on disc, others weak (or obsolete), only first attaining apex, eighth weak on sides, its course well marked and punctate towards apex; ninth interstice with a few fine punctures on apical curve. Femora dilatate in middle. Male with two basal joints of anterior tarsi dilatate and squamulose beneath.

Length, 6.5; breadth, 2 mm.

This species might at first sight be taken for a species of *Dromius*; indeed, its appearance is so different from the other Australian species of *Pogonus* that it probably should be referred to a different genus, but, as I have been unable to see any of the recent studies of the Pogonides, I prefer to leave it in the genus *Pogonus*.

NOTE.—I believe the four described Australian species of *Pogonus* are now before me, therefore the following tabulation of them may be useful:—

- A. Prothorax with sides strongly sinuate before basal angles (color of upper surface green).
- b.* Form rather broad, depressed; prothorax with a short elevated ridge on inner side of lateral channel near basal angles. *cardiotrachelus*, Chaud.
- bb.* Form narrow, cylindrical; prothorax without a sub-lateral ridge near basal angles. *australis*, Chaud.
- AA. Prothorax without any lateral sinuosity before base.
- c.* Form stout, convex. *hypharpagioides*, Sl.
- cc.* Form narrow, depressed. *Zietzi*, Sl.

[*LOXANDRUS AUSTRALIENSIS*, *n. sp.*

Oval, depressed; prothorax not punctate on sides of base, transverse, apex and base of equal width (2 mm.); elytra oval, crenulate-striate, third interstice unipunctate (the puncture placed considerably before the middle). Black, shining; tarsi, antennæ, and palpi piceous.

Head smooth; eyes convex, prominent. Prothorax lightly transverse (2.2 x 2.6 mm.), widest just behind anterior marginal puncture, smooth, lightly convex; sides strongly rounded, lightly narrowed in front, obliquely and decidedly narrowed to base; anterior margin subtruncate (hardly emarginate); base truncate; basal angles obtuse; border narrow, reflexed, obsolete on middle of anterior margin and on base between lateral impressions. marginal channel very narrow; median line lightly impressed in middle, not reaching base or apex; lateral basal impressions elongate, narrow, deep; posterior marginal puncture at basal angle (border not widened to receive it). Elytra broad, oval (5.7 x 4 mm.); apical curve decidedly sinuate on each side;

striae deeply impressed (fifth, sixth, and seventh weaker), strongly crenulate, first flexuous (curving towards suture) near base, seventh obsolete towards shoulder for about one-fourth of length; interstices flat, four inner ones a little convex, ninth punctate along course of eighth stria; border narrowly reflexed on sides, very little raised at humeral angles, and joining the basal border in a wide, not angular, curve. Mestasternum (on posterior parts of sides), metasternal episterna, and ventral segments punctulate.

Length, 10; breadth, 4 mm.

Only two of the described species of *Loxandrus* from Australia are known to me, viz., *L. atronitens*, Macl., and *L. iridipennis*, Casteln. Of these *L. atronitens* has the basal part of the prothorax punctulate, and the interstices roundly convex—features that at once separate it from *L. iridipennis* and *L. australiensis*. The conspicuous difference between *L. iridipennis* and *L. australiensis* is in the shape of the prothorax. *L. iridipennis* has the base of the prothorax evidently wider than the apex, the sides being very lightly narrowed to the base, the border extends along the base, is wide on the sides, increasing in width backwards from the anterior marginal puncture and becoming explanate at the basal angles, where it has the posterior marginal puncture placed upon it; while *L. australiensis* has the prothorax more convex, much more strongly rounded on the sides, decidedly narrowed to the base, the border narrow (never explanate), and obsolete on the middle of the base; it has the anterior angles, too, wider and less advanced, and the antennæ a little stouter. The basal border of the elytra is weaker in *L. australiensis* than in either *L. iridipennis* or *L. atronitens*, and the humeral angle is more rounded, with a finer border, which joins the basal border in a rounded curve without a perceptible angle. (The seventh stria of the elytra is obsolete for a considerable distance behind the shoulder; there are sometimes traces of this in specimens of *L. iridipennis*).

RHYTISTERNUS OBTUSUS, n. sp.

Oblong, rather convex; prothorax cordate, base (2·8 mm.) narrower than apex (3 mm.); elytra with four inner striae of each very strongly impressed, the interstices convex. Black, shining; tarsi piceous; palpi and antennæ reddish-piceous.

Head convex, obsoletely transversely impressed behind vertex; frontal impressions strong, diverging backwards; eyes reniform, not so prominent as usual in the genus. Prothorax cordate, transverse (3 x 3·8 mm.), widest about middle, convex, declivous to base; disc lightly transversely striolate; sides rounded on anterior two-thirds, decidedly and obliquely narrowed on posterior third; anterior margin truncate; base sub-truncate, rounded to

basal angles, these obtusely rounded; lateral border thick; lateral channel extending to base; two lateral basal impressions of each side deep, inner short, curving outwards, external elongate-foveiform; space between external basal impression and margin narrow, convex; posterior setigerous puncture placed at extremity of lateral channel. Elytra oval (8 x 4·8 mm.), depressed on disc, more strongly declivous than usual in genus on sides, on base (at each side of scutellum) and at apex; sides subparallel (very lightly rounded); base truncate; apical curve lightly, but decidedly, sinuate on each side; five inner striae entire, 1-4 deeply impressed, sixth and seventh obsolete, their course hardly indicated, except at apical extremity; fourth interstice convex; lateral border lightly reflexed; basal border joining lateral border at humeral angle with a slight interruption, but without any prominence. Prosternum truncate at base; a linear transverse impression just before base. Ventral segments roughly punctulate, the puncturation extending across the three apical segments.

Length, 13; breadth, 4·8 mm.

This species must be closely allied to *R. cardwellensis*, Blkb., with which it agrees in having the prothorax narrower across the base than across the apex. Judging by Mr. Blackburn's description, the following appear differences between these two species:—The sides of the prothorax in *R. cardwellensis* are described as sinuate before the basal angles—in *R. obtusus* they are not sinuate; and the basal angles of the prothorax, though obtuse, are marked in *R. cardwellensis*—in *R. obtusus* they are quite rounded off. The type of *R. cardwellensis* in Mr. C. French's collection is a male, so that it is possible *R. obtusus* may prove the female of that species, but this I consider extremely unlikely.

Two female specimens were in the collection, one of these (now in my collection) has the striae of the elytra strongly punctulate, the other (the type) has the striae a little crenulate; this I think may be a *post-mortem* effect produced by immersion in alcohol, and might not be found in fresh specimens.

NOTE.—Since the above description was written I have been in Sydney, and have seen the types of *Rhytisternus (Omaseus) Froggatti*, Macl.; the impression left upon me by an examination of that species is that *R. obtusus* is possibly identical with it. However, till specimens are compared, or the range of the species determined, it will be safer to allow *R. obtusus* to retain its specific name, with a query as to the possibility of its identity with *R. Froggatti*.

RHYTISTERNUS STUARTI, *n. sp.*

Oblong, very depressed; prothorax quadrate-cordate, sides sinuate behind, basal angles rectangular, base (3.3 mm.) wider than apex (3 mm.); elytra with four inner striæ of each entire and strongly impressed. Piceous black, shining; legs and antennæ piceous.

Male. Head moderate, convex; frontal impressions deep, short, diverging backwards, connected in front by the lightly marked clypeal suture; clypeus declivous to labrum; eyes prominent. Prothorax transverse (3.3 x 4.75 mm.), widest a little behind anterior marginal puncture, lightly convex towards sides anteriorly, depressed posteriorly; disc depressed, transversely striolate; sides lightly rounded on anterior three-fourths, lightly sinuate before base; anterior margin widely emarginate; base sinuate, lightly emarginate across peduncle, and sloping forward to the basal angle on each side; anterior angles obtuse; basal angles almost rectangular, their summits obtuse; lateral border thick, reflexed in front of basal sinuosity; median line lightly impressed; two lateral basal impressions placed in a wide depression on each side; the internal short, strongly impressed; the external more strongly marked, wide and arcuate; space between internal basal impressions lightly convex, that between external impression and margin narrow, convex, bearing at its base the posterior marginal puncture. Elytra depressed, wider than prothorax (9 x 5.7 mm.); sides subparallel, decidedly narrowed to humeral angles; base truncate; apical curve lightly and widely sinuate on each side; striæ simple, four inner ones strongly impressed, entire, fifth lightly impressed, sixth and seventh obsolete, except posteriorly, ninth and marginal channel as usual in genus; interstices flat; lateral border narrow, reflexed; basal border forming a prominent obtuse projection at each humeral angle above its junction with lateral border. Prosternum truncate at base; a linear impression just before basal margin, causing the base to appear weakly bordered. Ventral segments smooth in middle, finely rugulose-punctate laterally.

Length, 14.5—15.25; breadth, 5.7—6.1 mm.

The female is a little wider than the male, but does not differ otherwise, except sexually as usual in the genus.

In shape and general appearance, this species is closely allied to *R. carpentarius*, Sl., the conspicuous differences being that only the four inner striæ of the elytra are strongly impressed (not five as in *R. carpentarius*), and none of the interstices is convex (in *R. carpentarius* the five inner are); it is, besides, a smaller and much flatter insect, and has the sinuosity of the apical curve of the elytra less marked. From *R. liopleurus*, Chaud., its more depressed form and more transverse prothorax

decidedly separate it. It also resembles *R. callabonnensis*, Sl., but may be readily distinguished by its larger size, more depressed form, and the shape of the prothorax, which is broader, more quadrate, and strongly sinuate behind, with much more prominent basal angles.

Named in memory of the greatest explorer of Central Australia, John McDouall Stuart.

RHYTISTERNUS CALLABONNENSIS, *n. sp.*

Oblong, depressed; prothorax subcordate, base (3 mm.) a little wider than apex (2.75 mm.), basal angles obtuse, but marked; elytra with four inner striæ impressed, the interstices flat; ventral segments strongly rugulose-punctate. Black, shining; tarsi and palpi reddish-brown; antennæ piceous.

Male. Head moderate, convex; frontal impressions short, strong, diverging backwards, connected in front by the clypeal suture; clypeus strongly declivous to labrum; eyes prominent. Prothorax transverse-cordate (2.9 x 3.9), widest a little behind anterior marginal puncture, convex towards sides; disc depressed posteriorly, obsolete transversely striolate; sides rounded, lightly subsinuate before basal angles; anterior margin emarginate; base subtruncate (hardly emarginate) across peduncle, sloping forward to the basal angle on each side; anterior angles obtuse, rather more prominent than usual in the genus; basal angles obtuse; lateral border narrow, thick; lateral channel ending posteriorly considerably before the base; median line lightly impressed; two lateral basal impressions placed in a wide depression on each side; internal deeply impressed, lightly arcuate; external shorter, arcuate, parallel with lateral margin posteriorly; space between internal impressions depressed, but a little convex, that between external impression and margin convex anteriorly, not raised above lateral border posteriorly, bearing at its base a foveiform setigerous puncture. Elytra oval (8 x 5 mm.), shortly narrowed to humeral angles, subconvex (disc depressed); sides subparallel; base truncate; apical curve decidedly sinuate on each side; four inner striæ strongly impressed, simple, entire, fifth, sixth and seventh obsolete, except near apex; four inner interstices flat, hardly convex (sometimes a little convex); basal border forming a decided, though obtuse, prominence above its junction, with lateral border at humeral angle. Prosternum truncate at base, widely transversely impressed just before basal margin. Ventral segments closely punctate; the puncturation coarse near sides, fine but continuous across middle.

Length, 13.3; breadth, 5 mm.

The female is a little flatter than the male, and is not easily separated from the female of *R. Stuarti*, Sl.

Closely allied to *R. splendidus*, Blkb., from which I would note the following characters as distinguishing it; (*a*) the prothorax has the basal angles a little more marked, and the sides faintly sinuate before them, (*b*) the elytra have the fifth stria less strongly impressed, (*c*) the ventral segments are opaque, not smooth in the middle, and not impressed with a transverse sulcus. It must, judging from the description, have a considerable affinity to *R. cardwellensis*, Blkb., but that species has the prothorax more dilatate at its widest part, and narrower at the base.

RHYTISTERNUS ARNHEIMENSIS, *Casteln?*

Male. Narrow, elongate, rather depressed; prothorax long, subcordate, base and apex of equal width (2.3 mm.), sides sinuate posteriorly; elytra with five inner striae entire. Black, shining; legs and antennae reddish-piceous.

Head rather long, widely and obsoletely impressed across occiput; frontal impressions moderate, wide apart, diverging backwards, their apices connected by the strongly marked clypeal suture; eyes (with orbit) reniform, less prominent than usual in the genus. Prothorax narrow, subcordate (2.7 x 3.2 mm.), widest a little before the middle, depressed posteriorly; sides very lightly rounded, lightly sinuate before base; anterior margin hardly emarginate; base sinuate, a little emarginate in middle and sloping lightly and roundly forward to basal angles on each side; anterior angles less obtuse than usual in the genus; basal angles well marked, obtuse at summit; lateral border narrowly reflexed; inner lateral basal impression not strongly marked, linear; spaces between them and margin on each side flat (external basal impression obsolete). Elytra oval (6.8 x 4 mm.), depressed on disc; apical curve sinuate on each side; five inner striae simple, entire, first and second most strongly impressed, sixth and seventh only decidedly marked posteriorly (their course perceptible nearly to base); interstices flat on disc (two inner ones a little convex), five inner ones convex on apical declivity, ninth narrow, convex, punctate, the punctures interrupted in middle; lateral border narrow, reflexed; basal border interrupted at junction with lateral border. Prosternum roundly sub-truncate, not margined at base. Ventral segments opaque, minutely punctate; this puncturation more marked on basal segments, wanting in middle of segments.

Length, 12; breadth, 4 mm.

The species described above I believe to be *Rhytisternus* (*Omaseus*) *arnheimensis*, *Casteln.*, but the description of that species is, unfortunately, too vague to be of any use in identifying

it. The type of *R. arnheimensis* is in the Howitt Collection, where I have seen it, and so know it to be a species of *Rhytisternus*, of narrow shape, with the prothorax cordiform and sinuate before the basal angles.*

PHORTICOSOMUS GRANDIS, *Casteln.*

Several specimens of a *Phorticosomus*, which seems certainly *Ph. grandis*, *Casteln.*, were obtained by Mr. Zietz; one of these is before me, from which I make the following notes as supplementary to de Castelnau's brief description.

Brown. Prothorax broader than long (4.6 x 5.6 mm.), subcordate, truncate on base, a little wider across apex (5.2 mm.) than base (5 mm.); sides lightly sinuate before basal angles; anterior angles projecting; basal angles rectangular, and decidedly marked. Elytra lightly striate; the interstices flat; base truncate; humeral angles not marked; basal border hardly arcuate on posterior margin from fourth stria to humeral angle; abbreviated stria at base of second interstice very short, punctiform.

Length, 18; breadth, 7 mm.

HYPHARPAX HABITANS, *n. sp.*

Male. Narrow, parallel, depressed; prothorax rounded on sides, posterior angles widely rounded, base and apex of equal width (1.5 mm.); elytra deeply striate, interstices without a stria at base of second or a puncture on apical part of third; prosternum punctulate before coxæ.

Black, shining; undersurface and femora piceous-black; tibiae piceous-brown; antennæ, palpi, and labrum light-brown. Head small; mandibles inconspicuous, hidden by labrum; front with a narrow short oblique impression on each side extending backward towards middle of eye; these impressions connected by the well marked clypeal suture; eyes convex, not very prominent. Antennæ long. Labrum quadrate; anterior margin emarginate. Prothorax smooth, subrotundate, lightly transverse (1.8 x 2.2 mm.), widest a little before the middle, depressed on disc, strongly declivous on sides anteriorly; sides rounded, the curvature extending to the peduncle posteriorly; anterior margin widely and lightly emarginate; base truncate across peduncle; anterior angles obtuse, not marked; basal angles not marked; border narrow, extending along the base; marginal channel very narrow; a wide round well-defined impression (punctate at

* I believe Mr. Waterhouse, who collected *R. arnheimensis*, obtained it when with one of the early transcontinental exploring expeditions; if so, the locality, Arnhem's Land, may be erroneous.

bottom) on each side of base. Elytra very little wider than prothorax (4.2 x 2.5 mm.), parallel on sides, depressed on disc, declivous on sides, lightly declivous to apex; base truncate; shoulders rounded; sinuosity of apical curve obsolete; striae very deeply impressed, first hardly deflected towards suture near base, ninth interstice punctate towards shoulder and on apical third; lateral border narrow. Prosternum covered with a fine puncturation before coxæ; episterna smooth. Metasternum rugulose in middle and finely punctulate towards sides. Ventral segments minutely punctulate. Lower side of posterior femora with two punctures, very dilatate in middle and forming a strong obtuse projection; posterior tibiæ straight; four anterior tarsi with joints 2-4 dilatate and densely spongiose beneath, those of anterior tarsi very widely dilatate; posterior tarsi with joints 1-4 successively shorter; first not long, about one-fourth longer than second.

Length, 7; breadth, 2.5 mm.

A very distinct and quite isolated species among the Australian Harpalides known to me. I have placed it in the genus *Hypharpax* because the posterior femora have the lower side so strongly dilatate in the middle as to form a sudden obtuse protuberance, which might almost be called dentiform, and because the posterior tarsi have the first joint but little longer than the second. Its nearest allies seem to be the three Australian species that M. de Chaudoir left in the genus *Anisodactylus* (only because he could find no satisfactory features by which to separate them from that genus), but beyond a general resemblance it has little in common with any of them; its black color, dark legs, and the absence of a striole at the base of the second interstice, or a puncture towards the apex of the third, are decided characters distinguishing it from them. It breaks down some of the barriers separating *Anisodactylus rotundicollis*, Casteln., and its allies, from the genus *Hypharpax*: as *H. interioris*, Sl., breaks down some of those between *Phorticosomus* and *Hypharpax*; and is one of those species which help to show the artificiality of genera founded wholly on the sexual characters of one sex.

HYPHARPAX INTERIORIS, *n. sp.*

Oval, depressed; prothorax transverse, sides strongly rounded, base (2 mm.) a little wider than apex (1.8 mm.); elytra much wider than prothorax, third interstice with a lightly impressed puncture just behind beginning of apical declivity. Male with posterior femora not dentate on lower side. Brown, with bronzy tints on upper surface; femora, posterior trochanters, palpi and base of antennæ testaceous; tibiæ, tarsi, and apical part of antennæ a little infuscate; mandibles light brown, the apex black

Male. Head moderate, not large; eyes not prominent. Antennæ short. Prothorax lightly convex, transverse (1·9 x 2·7 mm.), widest about middle, strongly rounded on sides; base very little wider than apex; anterior margin lightly emarginate; base lightly rounded, truncate in middle; anterior angles wide, obtuse, not advanced; posterior angles obtusely rounded, not marked; border wide on sides, narrow and entire on base; lateral margin explanate; median line obsolete; lateral basal impressions wide and shallow. Elytra lightly convex, wide, oval (5 x 3·6 mm.), lightly rounded on sides; sinuosity of apical curve obsolete, though just perceptible at extremity of ninth interstice; striæ lightly impressed, first flexuous near base; interstices flat, second with a short, lightly impressed striole at base, third with a fine puncture on apical declivity, about level with extremity of fifth interstice, ninth punctate, the punctures not widely interrupted in middle. Mestasternum smooth, very finely punctulate on each side. Ventral segments with a few punctures, bearing long setæ scattered over their surface. Posterior femora compressed, dilatate in middle, but without any obvious projection on lower side, a row (more or less double) of not closely-placed punctures, bearing long setæ along outer margin of lower side; posterior tibiæ almost straight; four anterior tarsi with joints 2—4 dilatate (not very broadly) and densely spongiöse below; posterior tarsi short, first joint hardly longer than second.

Length, 8; breadth, 3·6 mm.

This species leads off from the typical species of *Hypharpax* towards *Phorticosomus*; probably its nearest ally among described species is *H. Deyrollei*, Casteln., from which it may be distinguished by its wider and less convex shape, the prothorax more rounded on the sides, the different form of the elytral interstices (in *H. Deyrollei* the interstices become narrow and convex at their apex, and the fifth and sixth extend much nearer to the apex than in *H. interioris*), and by the position of the puncture of the third interstice, which is much nearer the apex in *H. interioris* than in *H. Deyrollei*. NOTE.—The prothorax, though not quite evenly rounded laterally, being a little more obliquely narrowed towards the base than towards the apex, is so much more strongly and evenly rounded on the sides than that of any other *Hypharpax* I have seen, as to make this a most obvious and noticeable feature of the species.

Besides the species dealt with above, the following Carabidæ were brought by Mr. Zietz from Lake Callabonna:—

Calosoma Schayeri, Erich.

Geoscaptus levissimus, Chaud.

Euryscaphus obesus, Macl.

- Philoscaphus Tepperi*, Blkb.*
Clivina Frenchi, Sl. (ms.s.). †
 " *Blackburni*, Sl. (ms.s.).
 " *sp. ?* (aff. *C. obliquata*, Putz.).
 " *sp. ?* (aff. *C. debilis*, Blkb.).
 " *sp. ?* (aff. *C. dilutipes*, Putz.).
Bembidium jacksoniense, Guer.
Pogonus cardiotrachelus, Chaud.
Chlænioideius herbaceus, Chaud.
Rhytisternus cyathoderus, Chaud.
Dicrochile Goryi, Boisd.
Platynus marginicollis, Macl.
Lebia benefica, Newm.
Dromius crudelis, Newm.
Trigonothops nigronotatus, Chaud.
Gigadema longipenne, Germ.
 " *sulcatum*, Macl.
Diaphorus (Zuphiosoma) fulvus, Casteln.
Chlænienus australis, Dej.
 " *læteviridis*, Chaud.
Oodes Waterhousei, Casteln.
Anisodactylus rotundicollis, Casteln.
Hypharpax vilis, Blkb.

* The Rev. Thos. Blackburn has sent me specimens collected by Mr. Zietz, under the name of *Ph. Tepperi*, Blackb.; they are so close to *Ph. tuberculatus*, Macl., that I am unable to find characters by which to distinguish them from that species. The upper edge of the lateral groove of the elytra is interrupted a little before the middle in *Ph. tuberculatus*, though to a less degree than in the Callabonna specimens; these, however, vary *inter se* in respect to the decidedness of the interruption. The tubercles of the disc of the elytra are less marked in the Callabonna specimens than in typical specimens of *Ph. tuberculatus*, but this is a character that varies in *Ph. tuberculatus*.

† These species of *Clivina* will be treated of in a revision of the Australian *Clivinæ*, on which I am now engaged.
